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ABSTRACT

The need for effective programs to delay sexual activity and to educate adolescents regarding the human immunodeficiency virus (HIV) has never been greater. Statistics point out that a significant number of teenagers throughout the United States engage in behavior that increases their risks of becoming infected with HIV. This study examined adolescents' Acquired Immune Deficiency Syndrome (AIDS)-related knowledge, beliefs, and practices by age, sex, age and race/ethnicity; assessed the levels of students' high risk behaviors; and assessed the changes in school based AIDS education programs and policies. Maryland high school students were surveyed in 1988 and 1989. The 1988 study sample consisted of 817 students; the 1989 sample consisted of 5,459 students. The results clearly showed that the majority of students had a realistic perception of their susceptibility to the disease. Most of the students surveyed indicated a correct knowledge of the modes of HIV transmission, modes of preventing AIDS infection, and current facts about AIDS. Their attitudes about AIDS education were very positive. During the second year of the survey, increases in correct responses were found in all major areas of concern. Their level of knowledge did not vary significantly by either sex or race/ethnicity. However, there appeared to be a gradual increase in knowledge, specifically in the area of sex education from the age of 13 to 18. (ABL)

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ADOLESCENTS' BEHAVIOR AND ATTITUDES TOWARD AIDS

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MSDE

Maryland State Department of Education
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ADOLESCENTS' BEHAVIOR AND ATTITUDES TOWARD AIDS

Two years of survey results on high school students in representative school districts in Maryland are compared to: determine AIDS-related knowledge, beliefs and practices by age, sex, age and race/ethnicity; assess the levels of students' high risk behaviors; and assess the changes in school based AIDS education programs and policies. In the first year of the study (1988), the sample consisted of 817 students. The second year (1989) sample size was increased to 5,459. A comparative analysis was made of the two surveys in the following four major areas: (1) students' knowledge of mode of transmission of HIV; (2) students' knowledge of modes of preventing AIDS infection; (3) students' knowledge of current facts about AIDS; (4) students' AIDS-related beliefs and attitudes. An analysis of the responses patterns for two years indicated that most students know that AIDS is transmitted through sexual intercourse or intravenous drug use and not by shaking or holding hands with AIDS-infected individuals. Approximately 10% were misinformed regarding preventive practices. A relatively high percentage are aware of some current facts, although seven percent think there is a cure for AIDS. In terms of demographic characteristics, those who are 12 years and under were consistently the most misinformed. Of those who responded to the high risk behavior questions, 40% indicated that they had never had any type of sexual intercourse. Almost 50% reported having sexual intercourse for the first time between the ages of 13-16, although 10% of the students said they were age 12 or under. Twenty-one percent indicated that they had four or more sex partners in their lives. Only 20% said they always used condoms, with almost 20% indicating rarely or never, despite the fact that 77% indicated that they had been taught about AIDS/HIV infection in school. Almost all said they had never injected drugs nor shared needles or syringes. Tables for both years of the surveys provide information on AIDS prevention education such as grades instruction occurs, curriculum, teacher training, and staff and parent awareness in each MD school district.

I. INTRODUCTION

The need for effective programs to delay sexual activity and to educate adolescents regarding the human immunodeficiency virus (HIV) has never been greater. Most American teenagers begin having sexual intercourse as adolescents. Many teenagers are not protecting themselves against pregnancy or sexually transmitted diseases. One in ten teenage girls becomes pregnant each year, and one in seven teens contracts a sexually transmitted disease annually (Haffner, 1987). These statistics point out that a significant number of teenagers throughout the United States engage in behavior that increases their risks of becoming infected with HIV.

Since the first cases of acquired immune deficiency syndrome (AIDS) were reported in the United States in 1981, HIV-related diseases have precipitated an epidemic of unprecedented proportions in modern history. In the seven year period that followed, more than 60,000 persons in the United States have been diagnosed as having AIDS and more than 30,000 have died from the disease. A report issued in January 1989 by the U.S. Department of Health and Human Services' Centers for Disease Control (CDC) indicated that at present from 1 to 1.5 million persons in the United States are infected with HIV. The report estimates that during the year 1991, 74,000 cases of AIDS will be diagnosed and 54,000 persons will die from the disease. By the end of the year, the total number of deaths caused by AIDS will be about 179,000. In that year alone, health care and supportive services for the

persons projected to be afflicted with AIDS will cost our nation an estimated 8 to 10 billion dollars. Meanwhile the World Health Organization projects that by 1991, 50 to 100 million persons may be infected worldwide. Because there is currently no cure and one may not be found within the next decade, those infected persons are potentially capable of infecting others indefinitely. Until specific vaccines or therapies become available, education and risk reduction programs will be the primary public health weapons for prevention of HIV infection (Lipson, CDC 1988).

As of February 1990, CDC has reported 486 diagnosed cases of AIDS in adolescents ages 13-19. Since the incubation period for HIV is lengthy, infection during the early years of adolescence may not emerge until adulthood. Therefore the number, though relatively small, bears the ominous sign of the tip of the iceberg. Reducing the risk of HIV infections among teenagers is important not only for their own well-being but also for the children they might produce. Because the virus is transmitted almost exclusively as a result of behavior which is modifiable, understanding the behavior and instituting educational programs that are designed to modify such behavior can be most effective in controlling the AIDS epidemic.

To initiate such an educational program nationwide, especially for the young, a number of national institutions, departments of education, and the CDC have collaboratively launched studies and surveys to determine the extent of adolescents' knowledge of AIDS as well as their attitudes and

behavior with respect to the disease. Maryland was one of a dozen states that volunteered to collaborate with CDC's initial surveys. In 1988 and again in 1989, the Maryland State Department of Education (MSDE) selected a sample of representative school districts and requested volunteer high schools in these districts to participate in the survey. This paper compares the survey results for two consecutive school years, 1987-88 and 1988-89. The surveys were designed to do the following as reliably as possible:

1. Determine AIDS-related knowledge, beliefs and attitudes among school students by grade, sex, age and race/ethnicity.
2. Assess the levels of students' high risk behavior.
3. Assess the changes in school-based AIDS education programs and policies.

II. METHODOLOGY

Originally, a student questionnaire was drafted, field tested and revised a number of times for the final determination of the appropriateness of content, format, and psychometric characteristics. The final questionnaire was developed by CDC and departments of education officials from twelve cities and twelve states. During the second year of the study, MSDE revised the CDC questionnaire to include a question to determine if students had received AIDS instruction and ten questions to assess students' behavior for a total of 38 questions. Of the 27 questions common to the first and second year surveys: four

obtained demographic information; seven determined students' knowledge of modes of transmission of HIV; four contained inquires about students' knowledge of modes of preventing AIDS infection; seven concerned students' knowledge of current facts about AIDS; and five questions concerned students' AIDS-related beliefs and attitudes.

In the first year's study, 817 students from six school districts participated. In each district a high school volunteered to randomly survey a group of students. Since the schools were selected on a voluntary basis, the results of the survey could not be technically generalized to the population of the State. However, the districts were highly representative of the Maryland population (two rural, two suburban and two urban fringe). During the second year of the study, schools were selected by a proportionate cluster sampling design. Six school districts participated, and the sample size was increased to 5,459.

During the administration of the survey, students were told about the importance of the information being collected, and were also told that completing the survey was completely voluntary. They were instructed not to write their names anywhere on the answer sheet and every effort was made to ensure confidentiality in the processing of their responses.

The second part of the study included a self-designed questionnaire to assess the changes in school-based AIDS education programs and policies. The survey for the 1987-88

school year contained questions regarding how AIDS education is taught (as part of comprehensive school health or included with another subject), what grades received instruction, if teachers had received training, and if there was staff and parent awareness. For the 1988-89 school year, the questionnaire was expanded to include whether the curriculum was locally or commercially developed, length of student instruction, type and length of teacher training, and type and length of presentation for staff and parental awareness. The questionnaires were completed by the health education coordinators in each of the 24 school districts.

III. RESULTS

Responses to questions common to the two surveys administered in 1987-88 and 1988-89 were analyzed and are reported by race/ethnicity, gender, and age of the respondents in Table I. Comparative analysis of the two surveys indicates that students' responses were highly reliable. Results of the surveys are illustrated in Charts 1-4 according to the following four areas of major concern:

A. Students' Knowledge of Modes of Transmission of HIV:

Chart 1 shows that most students know that HIV may be transmitted through sexual intercourse or intravenous (IV) drug use, and that one cannot become infected by shaking or holding hands with an AIDS-infected individual. However, a relatively

TABLE I
MARYLAND STATE DEPARTMENT OF EDUCATION

STUDENTS' RESPONSE PATTERNS BY RACE/ETHNICITY, GENDER, AND AGE
A COMPARISON OF TWO YEARS

ITEM	YEAR* NUMBER	OVERALL CRUDE RATE	RACE/ETHNICITY		GENDER		AGE GROUP				
			WHITE	NON-WHITE	FEMALE	MALE	12 & UNDER	13-14	15-16	17-18	19 & OVER
Can a person get AIDS from having sexual intercourse? (% YES)	n=5444 n=816	96.4% 96.0%	97.1% 92.5%	91.8% 94.7%	97.6% 96.1%	95.1% 93.2%	68.4%	97.4% 94.1%	96.4% 95.9%	96.3% 93.7%	87.2%
Can a person get AIDS from a blood test? (% NO)	n=5442 n=813	72.9% 65.9%	73.8% 77.5%	67.2% 65.5%	72.8% 66.4%	72.9% 65.5%	57.9%	73.3% 59.0%	71.0% 65.6%	76.0% 76.8%	61.5%
Can a person get AIDS from giving blood? (% NO)	n=5444 n=811	61.9% 53.5%	63.8% 65.0%	49.9% 53.3%	63.0% 57.8%	60.7% 48.8%	42.1%	56.9% 37.7%	59.4% 55.9%	68.6% 71.4%	
Can a person get AIDS from shaking/holding hands? (% NO)	n=5405 n=810	94.9% 93.0%	95.4% 95.0%	91.4% 92.9%	96.7% 95.8%	93.0% 90.0%	57.9%	95.1% 91.4%	95.6% 95.0%	94.6% 92.1%	74.4%
Can a person get AIDS from being bitten by mosquitos or other insects? (% NO)	n=5435 n=809	50.0% 41.7%	51.0% 35.9%	44.3% 42.2%	49.9% 41.7%	50.2% 41.7%	47.4%	48.8% 38.7%	51.2% 42.7%	49.1% 44.9%	38.5%
Can a person get AIDS from sharing needles or syringes to inject drugs? (% YES)	n=5445 n=815	97.9% 96.4%	98.6% 97.5%	93.6% 96.3%	98.7% 95.2%	97.1% 97.9%	63.2%	97.6% 92.6%	98.2% 98.2%	98.4% 99.0%	84.6%
Can a person get AIDS from using public toilets? (% NO)	n=5435 n=813	71.3% 60.0%	72.7% 77.5%	62.4% 59.2%	73.1% 63.9%	69.5% 55.8%	57.9%	69.6% 53.4%	71.3% 62.0%	72.6% 66.3%	48.7%
Can people reduce their chances of becoming infected with the AIDS virus by not having sexual intercourse (being abstinent)? (% YES)	n=5439 n=813	87.1% 82.2%	88.8% 82.5%	76.3% 82.3%	88.3% 88.2%	86.1% 91.0%	57.9%	85.3% 87.3%	87.1% 90.5%	88.8% 91.6%	69.2%
Can people reduce their chances of becoming infected with the AIDS virus by using condoms (rubbers) during sexual intercourse? (% YES)	n=5438 n=812	92.2% 89.5%	93.6% 90.0%	83.1% 89.4%	92.7% 88.2%	91.8% 91.0%	52.9%	90.3% 87.3%	92.2% 90.5%	93.7% 91.6%	79.5%
Can people reduce their chances of becoming infected with the AIDS virus by not having sexual intercourse with a person who uses illegal drugs than can be injected? (% YES)	n=5430 n=809	85.8% 75.1%	87.3% **	76.4% **	87.1% 74.9%	84.3% 75.2%	52.9%	81.7% 69.1%	85.5% 77.2%	88.7% 79.6%	76.3%

* 1988-89 responses are on top and 1987-88 are on the bottom.
** Data are not available.

ITEM	YEAR* NUMBER	OVERALL CRUDE RATE	RACE/ETHNICITY		GENDER		AGE GROUP				
			WHITE	NON-WHITE	FEMALE	MALE	12 & UNDER	13-14	15-16	17-18	19 & OVER
Can people reduce their chances of becoming infected with the AIDS virus by taking birth control pills? (% NO)	n=5422 n=809	87.5% 83.2%	88.5% 77.5%	80.6% 83.6%	89.2% 83.6%	85.5% 83.0%	83.3%	84.9% 72.8%	87.4% 88.4%	89.0% 89.0%	79.5%
You can tell if a person is infected by AIDS by looking at the person. (% FALSE)	n=5435 n=808	78.7% 77.5%	79.0% 77.5%	76.5% 77.2%	82.2% 81.2%	74.9% 73.5%	47.4%	76.2% 74.3%	78.8% 80.1%	80.1% 79.0%	47.4%
Any person infected with AIDS can infect someone else during sexual intercourse. (% TRUE)	n=5444 n=816	96.4% 94.6%	97.1% 92.5%	91.8% 94.7%	97.6% 96.1%	95.1% 93.2%	68.4%	97.4% 94.1%	96.4% 95.9%	96.3% 93.7%	87.2%
A pregnant woman who has the AIDS virus can infect her unborn baby with the virus. (% YES)	n=5446 n=815	92.0% 88.7%	92.2% 82.5%	90.9% 89.2%	93.6% 90.5%	90.2% 86.9%	52.6%	89.9% 87.4%	91.8% 89.0%	93.8% 91.6%	89.7%
There is a cure for AIDS. (% FALSE)	n=5437 n=810	90.2% 88.6%	91.2% 82.5%	83.6% 89.0%	92.2% 90.9%	88.0% 86.3%	68.4%	89.8% 85.8%	90.3% 90.5%	91.0% 88.4%	69.2%
Only gay men can get AIDS. (% FALSE)	n=5435 n=810	91.1% 93.5%	91.6% **	88.5% **	92.9% 96.1%	89.5% 90.8%	72.2%	89.6% 91.8%	91.0% 93.8%	92.7% 94.8%	79.5%
Can a person get AIDS from going to school with a student who has AIDS?	n=5442 n=812	90.5% 78.9%	90.8% 90.0%	88.7% 78.8%	94.1% 84.5%	86.7% 72.8%	63.2%	91.4% 80.3%	90.5% 76.6%	91.1% 80.9%	69.2%
Should students your age be taught about AIDS in school? (% YES)	n=5429 n=812	94.2% 92.9%	94.6% 90.0%	91.7% 93.3%	96.6% 94.9%	91.8% 90.5%	56.3%	95.0% 92.2%	94.2% 93.8%	94.6% 92.6%	81.6%
Should an AIDS-infected student have the right to go to your school? (% YES)	n=5431 n=809	44.4% 53.4%	44.8% **	42.8% **	52.5% 60.1%	35.7% 46.2%	42.1%	52.1% 54.3%	43.7% 52.4%	42.5% 51.3%	35.1%
Would you be willing to go to class with a student with AIDS? (% YES)	n=5433 n=810	46.6% 29.5%	47.0% 27.5%	44.3% 29.6%	55.5% 34.4%	36.6% 24.0%	31.6%	52.4% 31.7%	46.1% 26.8%	45.1% 30.2%	34.2%
Do you know where to get correct information about AIDS? (% YES)	n=5438 n=810	62.0% 60.6%	61.2% 62.5%	62.1% 60.2%	63.4% 60.7%	60.4% 60.7%	42.1%	55.9% 55.4%	60.5% 63.9%	67.1% 62.8%	69.2%
Do you know where to get tested for the AIDS virus (% YES)	n=5446 n=813	58.2% 52.9%	57.6% **	60.8% **	60.5% 51.3%	55.4% 54.5%	73.7%	47.9% 50.9%	57.6% 52.4%	63.1% 55.5%	66.7%
Can you keep from getting AIDS? (% YES)	n=5442 n=811	90.6% 87.1%	90.8% **	89.1% **	91.3% 87.0%	90.0% 87.1%	68.4%	90.1% 86.7%	92.2% 86.7%	89.0% 87.4%	84.6%

* 1988-89 responses are on top and 1987-88 are on the bottom.
** Data are not available.

Students' Knowledge of Modes of Transmission of HIV

A Comparison of Two Years

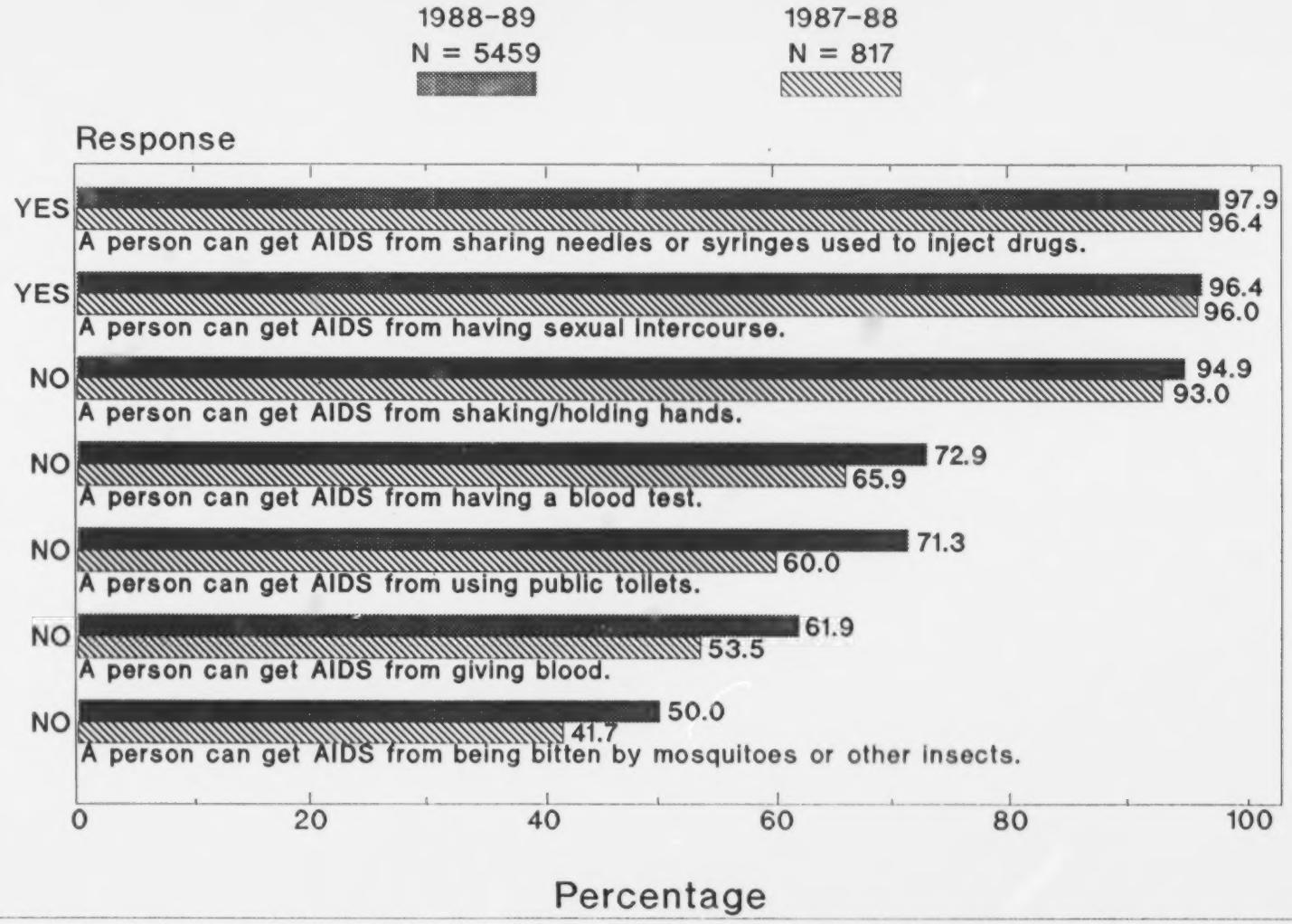


CHART 1

large number of students are unsure of other modes of contracting the disease. Only 50% knew that the disease cannot be contacted through insect bites. Approximately 60% knew that giving blood will not infect the donor, and 70% knew that having a blood test will not cause HIV infection. Seventy percent knew that public toilets are not transmitters of HIV infection.

In Table I, little differences can be seen in the race/ethnicity and sex of respondents in terms of knowledge of HIV transmission through sexual intercourse, IV-drug use, and not through shaking and holding hands with an AIDS-infected individual. However, of the respondents who are age 12 & under, fewer were correctly informed regarding sexual intercourse (68%), intravenous drug use (63%), and shaking/holding hands (58%). White students (64%) were better informed about giving blood than non-white students (50%). Those students who are age 12 & under were the most misinformed about giving blood (42%) and blood tests (58%). Students age 19 & over appeared to have the most doubt concerning the safety of public toilets (49%) and insect bites (39%).

B. Students' Knowledge of Modes of Preventing AIDS Infection:

Most students were familiar with preventive practices. When asked whether abstinence from sex could reduce chances of becoming infected with HIV, approximately 85% of students said yes, 90% believed using condoms is another way to reduce chances

of AIDS infection, and as did 80% knew not having sex with a person who injects illegal drugs. Almost the same percentage of students felt that taking birth control pills does not reduce chances of becoming infected (Chart 2).

In Table I of the students surveyed, white students appeared to be a little better informed than non-white students in terms of modes of preventing HIV infection: abstaining from sexual intercourse (89% and 76%), using condoms (94% and 83%), and not having sex with an illegal IV-drug user (87% and 76%). Differences are less apparent in terms of gender and age with the exception of students age 12 & under. Fewer knew that abstaining from sexual intercourse (58%), using condoms (53%), and not having sex with a person who injects illegal drugs (53%) were preventive measures.

C. Students' Knowledge of Current Facts about AIDS:

Almost all of the students (95%) in the two surveys were aware of the fact that any person infected with the AIDS virus can infect his/her partner during sexual intercourse. Just as many knew that homosexual men are not the only people who get AIDS and that at this time there is no cure for AIDS. They also knew that a pregnant woman who has AIDS can infect her unborn child. About 60% knew where to get correct information about AIDS, and a little more than half knew where to get a blood test (Chart 3).

As seen in Table I, few differences can be found in the

Students' Knowledge of Modes of Preventing AIDS Infection

A Comparison of Two Years

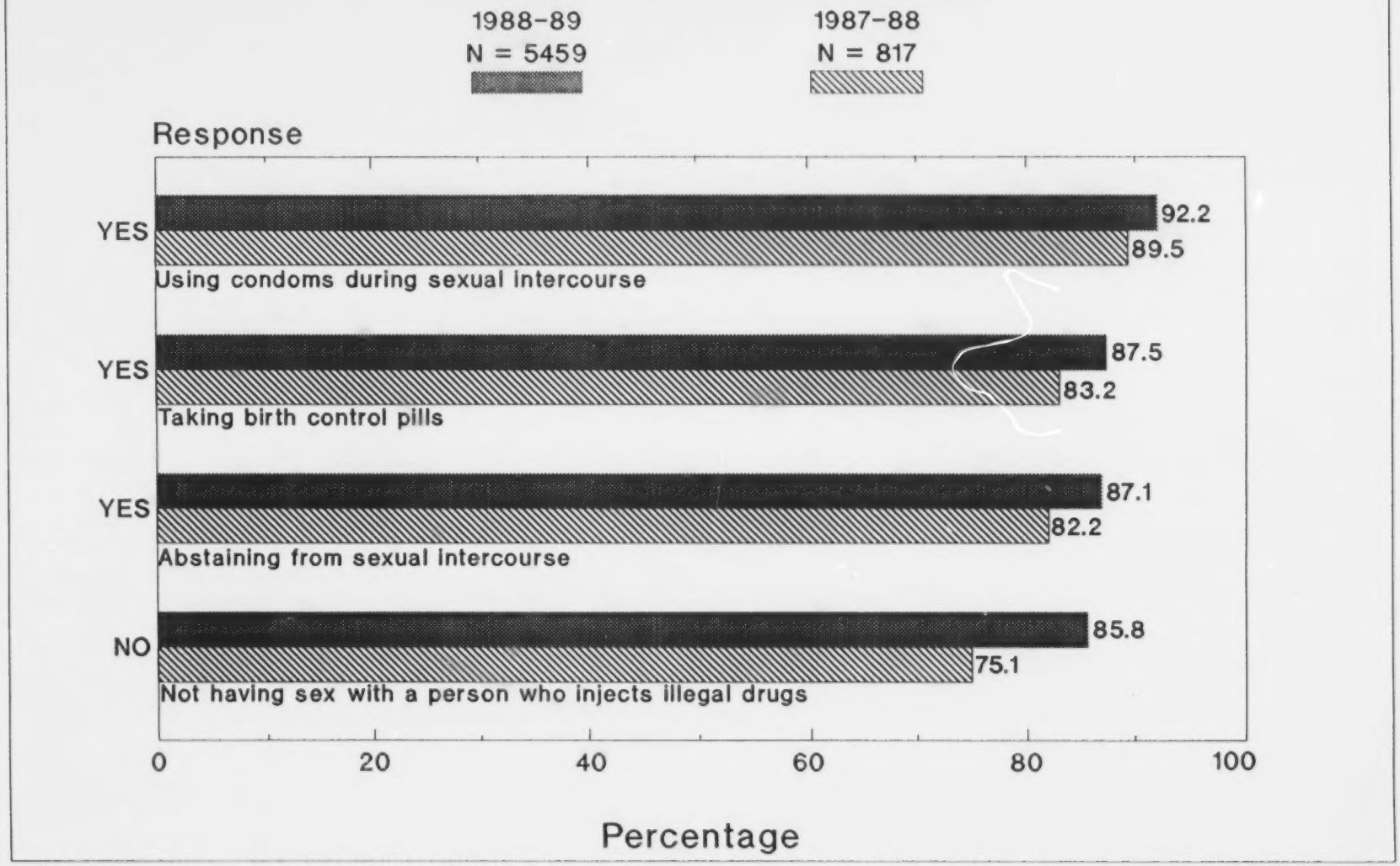


CHART 2

Students' Knowledge of Current Facts About AIDS

A Comparison of Two Years

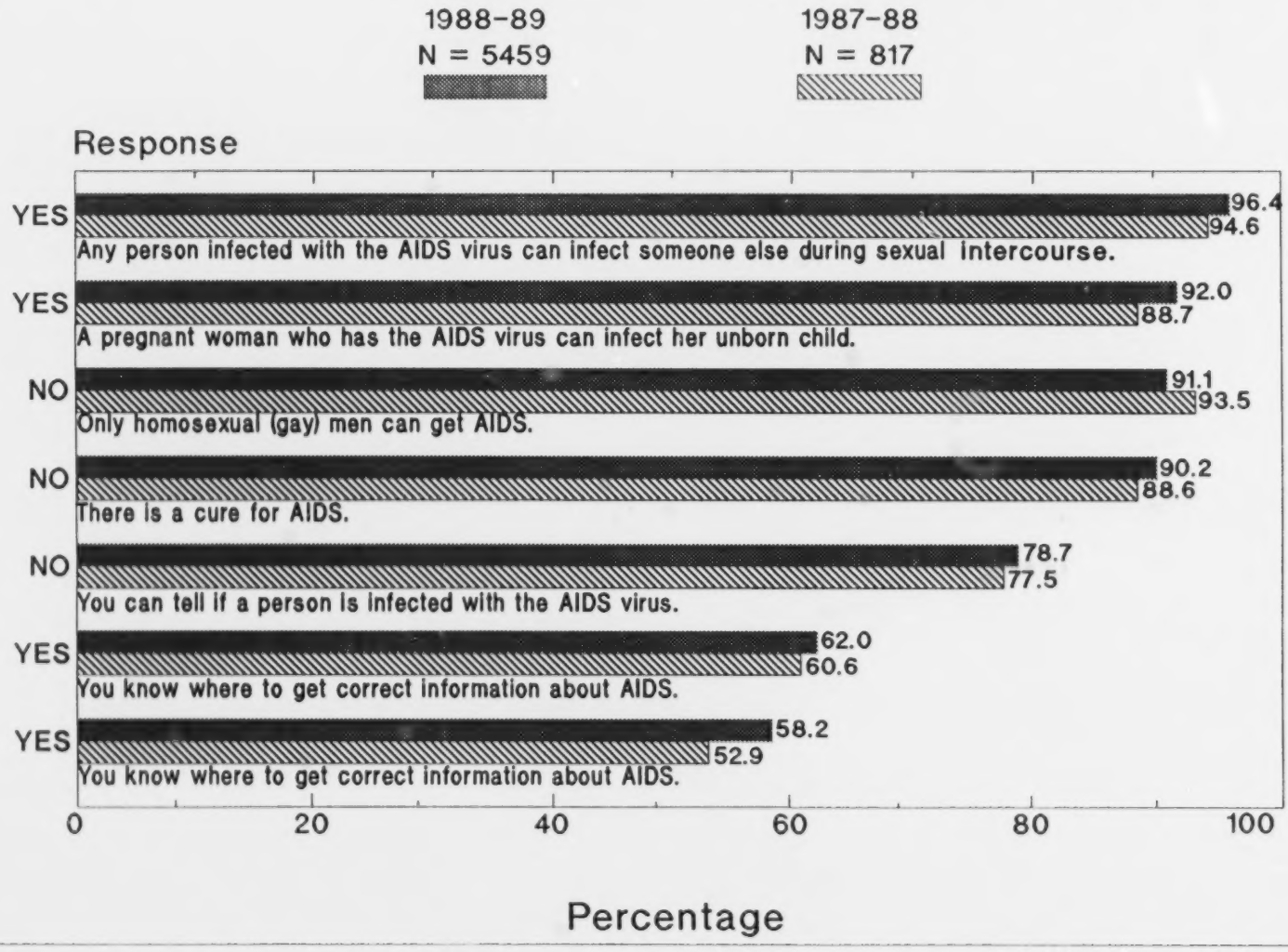


CHART 3

responses by race/ethnicity, sex, and gender. However, fewer non-white students (84%) than white students (91%) know there is not a cure for AIDS. More females (82%) than males (75%) know that you can not tell if a person has AIDS by looking at the person. Students who are 12 & under had the most incorrect information about most areas pertaining to current facts about AIDS with the exception of where to get a blood test (74%). However, just as many students (47%) who are 19 & over agreed that you can tell if a person is infected by AIDS by looking at the person.

D. Students' AIDS-Related Beliefs and Attitudes :

Chart 4 shows that less than 6% of students did not want to be taught about AIDS in school. Most (91%) believed that you cannot get AIDS from going to school with a student who is infected with AIDS. This was a significant increase from the 79% who similarly responded to 1987-88 survey. Just as many students believed that you can keep from getting AIDS. Almost half of the students (47%) said they would be willing to go to class with a student with AIDS. This was a 17% increase from the previous year's 30%. Ironically, there was a 10% decrease in the percentage of students who felt that students with AIDS have the right to go to their schools (Chart 4).

As shown in Table I, the responses differed little in terms of race/ethnicity, but much more in terms of gender. On the whole, females appeared to be more receptive to AIDS students in

Students' AIDS - Related Beliefs and Attitudes

A Comparison of Two Years

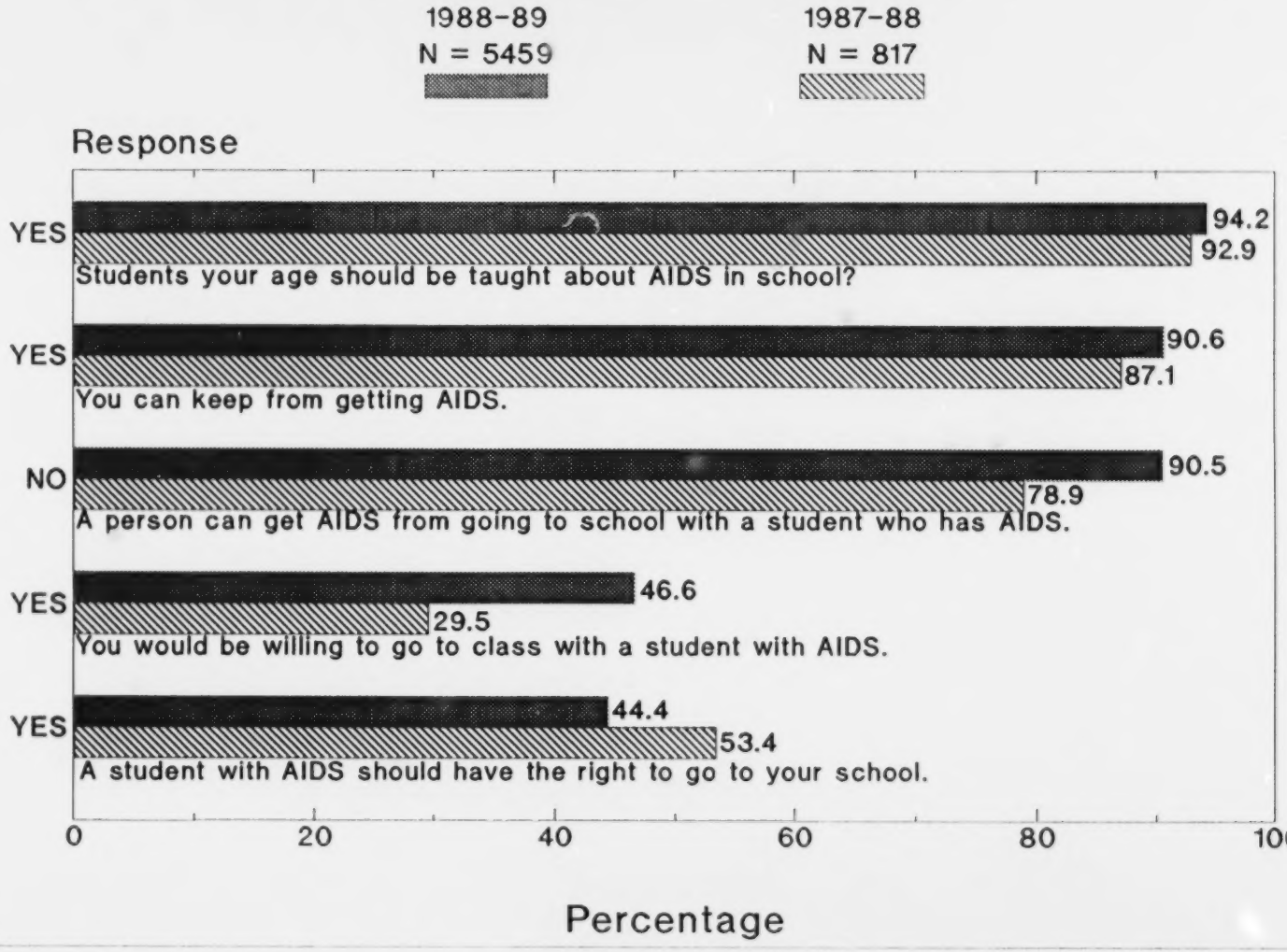


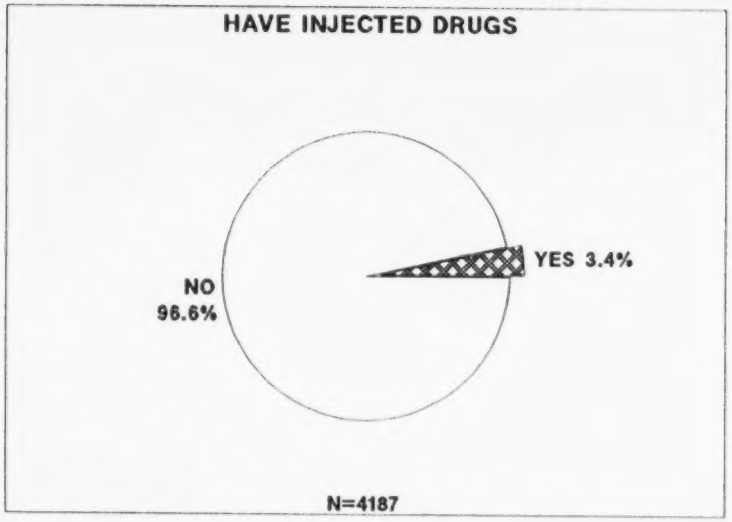
CHART 4

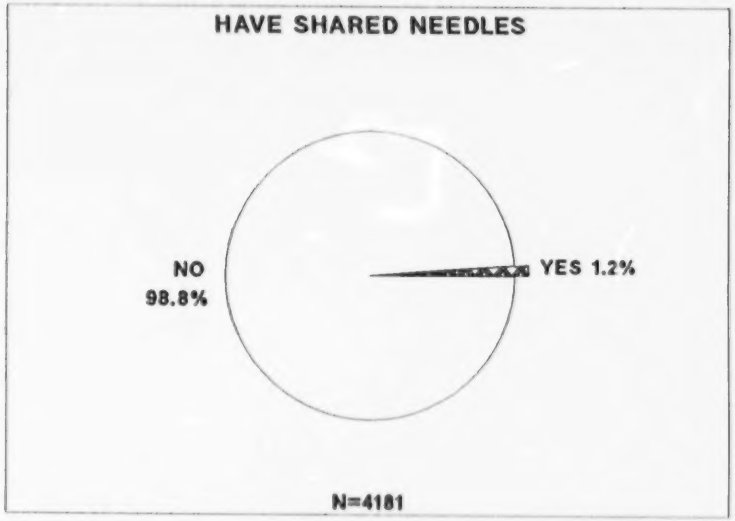
their AIDS-related beliefs and attitudes. The greatest differences can be seen in terms of the perception of an AIDS-infected student's right to attend school, and the willingness to attend class with an AIDS-infected student. Although a little more than 50% of females said yes, this was approximately 18% more than their male classmates. Students who are age 12 & under and 19 & over appear to be the least receptive to AIDS-infected students.

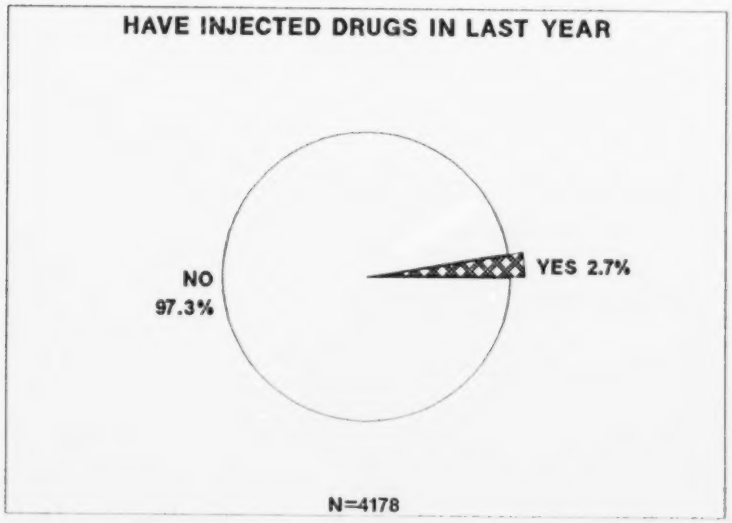
Responses to the student behavior questions that were included in the 1988-89 survey indicated that approximately half of the students talked to a parent, an adult in the family, or a friend about AIDS/HIV infection. In terms of high risk behavior with drugs, approximately 97% said that they have never (nor in the last year) injected drugs, while 99% of those who had responded said they had not shared needles or syringes (Chart 5).

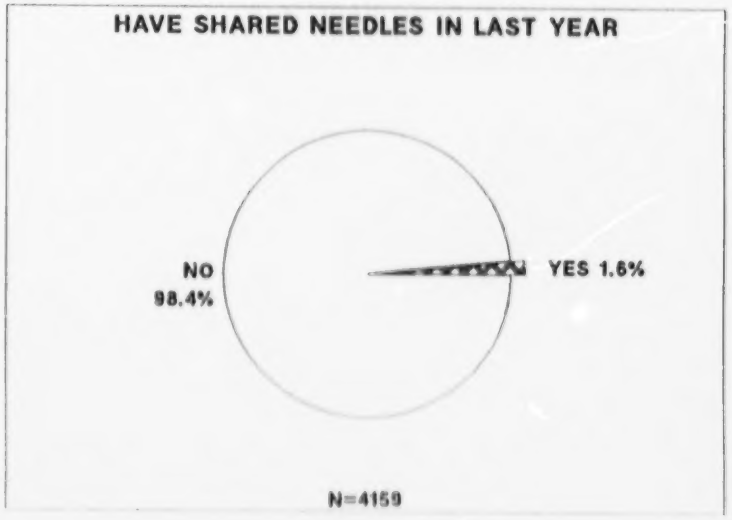
Chart 6 illustrates students high risk sexual behavior. Of those who responded approximately 40% indicated that they have never had any type of sexual intercourse. Of those who had, when asked the age that they first had sexual intercourse, almost 50% were between the ages of 13-16. However, 10% said they were 12 years of age or younger. When asked about the number of sex partners in the last year, 32% had at least one partner. Twenty-one percent said that they have had four or more sex partners in their lives. Alarmingly, only 20% said they always used condoms, with almost 20% indicating rarely or never, despite the fact that 77% indicated that they had been taught about AIDS/HIV

STUDENTS' HIGH RISK BEHAVIOR 1988–89 SURVEY



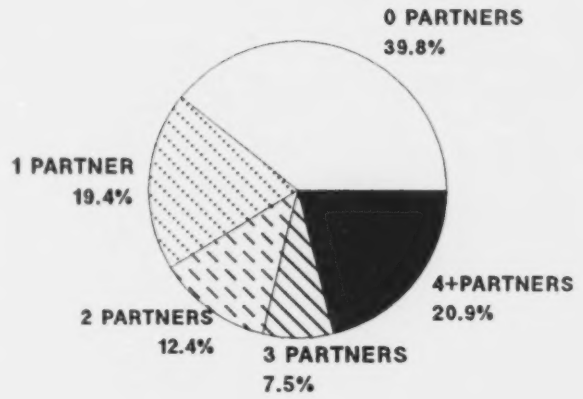






STUDENTS' HIGH RISK BEHAVIOR 1988–89 SURVEY

NUMBER OF SEX PARTNERS IN LIFE



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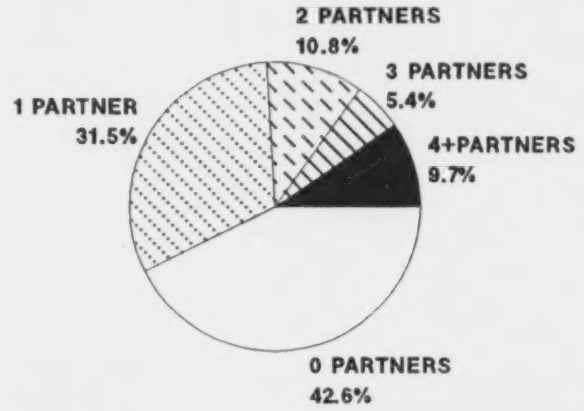
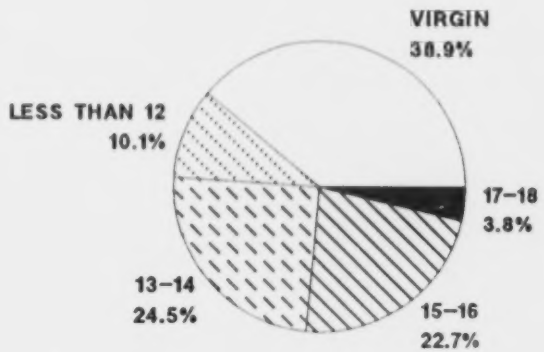
NUMBER OF SEX PARTNERS IN LAST YEAR



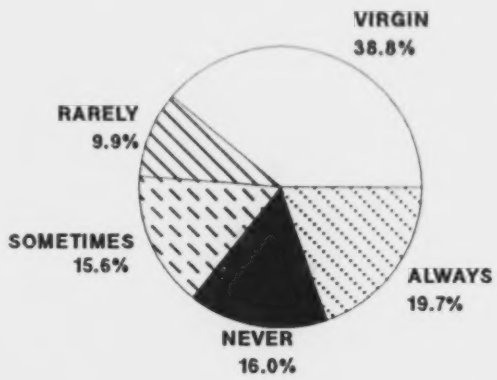
N=4129

AGE WHEN FIRST HAD SEXUAL INTERCOURSE



N=3904

USE OF CONDOM



N=3874

CHART 6

infection in school.

For the 1987-88 school year, health education coordinators indicated that all 24 school districts had AIDS prevention education (Table II). All teachers had been trained, and all staff and parents were aware of the AIDS prevention program. Instruction occurs as early as third grade in some districts (Baltimore City, Caroline, Kent, and Queen Anne Counties). Most instruction continues through twelfth grade. Although the majority reported that AIDS prevention education was taught as part of a comprehensive school health program, some indicated that it was taught as part of science, family life, social studies, math, English, drug education, and home economics.

The 1988-89 survey reported that all but three school districts (Anne Arundel, Queen Anne, and Somerset Counties) taught AIDS prevention as part of the comprehensive school health program (Table III). Although all districts reported that the curriculum was locally developed, Harford and St. Mary's Counties also reported using curriculum developed by the American Red Cross.

When asked about the length of AIDS prevention instruction for students, Anne Arundel County reported the most (500 minutes at all levels). In the elementary grades (3-6), the range of instruction was 20 to 225 minutes. In the middle grades (7-9), it ranged from 80-360 minutes, and in high school (10-12) from 45-450 minutes. For those districts that reported length of training, Talbot County reported 30 minutes, while the most (14

TABLE II
MARYLAND STATE DEPARTMENT OF EDUCATION

REPORT ON THE STATUS OF AIDS PREVENTION EDUCATION
SCHOOL YEAR '87-'88

LOCAL UNIT	GRADES WHERE AIDS PREVENTION INSTRUCTION OCCURS	#EXCUSED FROM INSTRUCTION	IS AIDS TAUGHT IN COMPREHENSIVE SCHOOL HEALTH	IF NOT, WHERE IS IT TAUGHT	TEACHER TRAINING	STAFF AWARENESS	PARENT AWARENESS
ALLEGANY	5,7,10,11,12	0	YES-ELEMENTARY	LIFE SCIENCE, BIOLOGY, FAMILY LIFE	YES	YES	YES
ANNE ARUNDEL	6,7,8,9,10,11,12	0	NO	SCIENCE, SOCIAL STUDIES, DRUG EDUCATION, MATH, FAMILY LIFE	YES	YES	YES
BALTIMORE CITY	3,4,5,6,7,8,9,10,11,12	2	YES		YES	YES	YES
BALTIMORE	5,8,9,10,11	0	YES-11	SCIENCE, HOME ECONOMICS BIOLOGY	YES	YES	YES
CALVERT	5,7,9,10,12	5	YES-5,7	BIOLOGY 9-10 PULL-OUT 12	YES	YES	YES
CAROLINE	3,4,5,6,7,9,10,12	3-HIGH SCHOOL	YES	SCIENCE-7	YES	YES	YES
CARROLL	6,8,9	0	YES	-	YES	YES	YES
CECIL	5,6,8,9,12	5-ELEMENTARY 3-MIDDLE 10-SENIOR	YES	-	YES	YES	YES
CHARLES	5,8,10	3-ELEMENTARY 1-HIGH SCHOOL 2-MIDDLE	YES	BIOLOGY GRADE 10	YES	YES	YES
DORCHESTER	5,6,7,8,9,10,11,12	0	YES		YES	YES	YES
FREDERICK	6,7,8,10,12	0	YES 7-8	FAMILY LIFE, SCIENCE, ENGLISH	YES	YES	YES
GARRETT	4,7,10,12	12-ELEMENTARY	YES-ELEMENTARY	BIOLOGY GRADE 10	YES	YES	YES
HARFORD	5,7,9,10,11,12	9-HIGH SCHOOL	YES	SCIENCE	YES	YES	YES

LOCAL UNIT	GRADES WHERE AIDS PREVENTION INSTRUCTION OCCURS	#EXCUSED FROM INSTRUCTION	IS AIDS TAUGHT IN COMPREHENSIVE SCHOOL HEALTH	IF NOT, WHERE IS IT TAUGHT	TEACHER TRAINING	STAFF AWARENESS	PARENT AWARENESS
HOWARD	4,5,6,7,8,9,10,11,12	0	YES	PLUS-SCIENCE 5,7,10, SOCIAL STUDIES 11,12 HOME ECONOMICS 6,7,8	YES	YES	YES
KENT	3,5,7,9	0	YES	-	YES	YES	YES
MONTGOMERY	8,10,12	.05%-MIDDLE HIGH SCHOOL	YES, GRADE 8	BIOLOGY, GENERAL SCIENCE, HOME ECONOMICS	YES	YES	YES
PRINCE GEORGE'S	6,7,9,19,11,12	0	YES	-	YES	YES	YES
QUEEN ANNE'S	3,5,7,9	0	NO	SCIENCE, FAMILY LIFE	YES	YES	YES
ST. MARY'S	5,8,10,12	4-ELEMENTARY	YES	BIOLOGY-SECONDARY	YES	YES	YES
SOMERSET	4,6,8,10	0	NO	SCIENCE	YES	YES	YES
TALBOT	5,6,7,8,9,10,11	1-ELEMENTARY	NO	SCIENCE, HOME ECONOMICS	YES	YES	YES
WASHINGTON	5,6,7,8,11	2-MIDDLE	NO	SCIENCE, SEX EDUCATION PULLOUT	YES	YES	YES
WICOMICO	5,8,10	17-ELEMENTARY 2-MIDDLE	YES	-	YES	YES	YES
WORCESTER	6,8,9,10,11,12	15-MIDDLE 22-SENIOR HIGH	NO	FAMILY LIFE AND HUMAN DEVELOPMENT 6,8,9 PULLOUT 10,11,12	YES	YES	YES

COMPILED SEPTEMBER 1988

TABLE III
MARYLAND STATE DEPARTMENT OF EDUCATION

REPORT ON THE STATUS OF AIDS PREVENTION EDUCATION
SCHOOL YEAR '88-'89

LOCAL UNIT	GRADES WHERE AIDS PREVENTION INSTRUCTION OCCURS (# OF MINUTES)	#EXCUSED FROM INSTRUCTION	IS AIDS TAUGHT IN COMPREHENSIVE SCHOOL HEALTH	IF NOT, WHERE IS IT TAUGHT	CURRICULUM LOCALLY DEVELOPED OR COMMERCIAL	TEACHER TRAINING (LENGTH OF TRAINING)	STAFF AWARENESS (LENGTH OF PRESENTATIONS)	PARENT AWARENESS
ALLEGANY	5, (150) 7, (180) 10, (180) 11,12 (180)	0	Yes - Grade 5	Grade 7-Science Grade 10-Biology Grade 11-12 Family Life	Locally Developed	Local school system, Health Department Personnel (40)	Local school system, Health Department Personnel	PTA, Local school program, Pamphlet in each school library
ANNE ARUNDEL	6, 7, 8, 9, 10 (all units are approximately 2 weeks in length = 500 minutes)	0	No		Locally Developed	Local school system personnel (1 full day)	(2 hours) Inservice	PTA, Local school Pamphlet or flier
BALTIMORE CITY	3, (120) 4, (120) 5, (120) 6 (150) 7 (150) 8, (250) 9, (150) 10, (150) 11, (150) 12 (150)	38-Elementary 10-Middle/Junior	Yes K-5 and 8	Grade 7-Science Grade 9-12 Science	Locally Developed	Local school system, HERO Health Department	Local school system, Health Department Personnel (8-20 hours)	PTA, Pamphlet Personnel
BALTIMORE	5, (100) 8, (200) 11 (250)	10	Yes-Grade 11	Grade 5-Science Grade 8-Home Economics	Locally Developed	Local school system, Health Department Personnel (60 minutes)	Local school system, Personnel, School nurse, Health Department Personnel (at least 60 minutes)	Planned for Fall '89
CALVERT	5, (90) 7, (225) 9, (180) 10, (180) 12 (60)	2-Elementary 1-Middle	Yes-Grade 5,7	Grade 9,10-Biology Grade 12-Pullout	Locally Developed	Local school system Personnel (14 Hours)	Local school system Personnel (60 minutes)	PTA, Local school program

LOCAL UNIT	GRADES WHERE AIDS PREVENTION INSTRUCTION OCCURS (# OF MINUTES)	#EXCUSED FROM INSTRUCTION	IS AIDS TAUGHT IN COMPREHENSIVE SCHOOL HEALTH	IF NOT, WHERE IS IT TAUGHT	CURRICULUM LOCALLY DEVELOPED OR COMMERCIAL	TEACHER TRAINING (LENGTH OF TRAINING)	STAFF AWARENESS (LENGTH OF PRESENTATIONS)	PARENT AWARENESS
CAROLINE	3, 4, 5, 6 (30-45) (45) (45) (45) 7, 9, 10, 12 (135) (135-225) (90) (45-90)	1 Senior High	Yes	Also Grade 7-Science Grade 11-12-Medical Services, Marriage and Family Living	Locally Developed	Local school system, Health Department Personnel (1 1/4-2 hours)	Local school system, Health Department Personnel (1 hour)	PTA, School calendar
CARROLL	6, 8, 9 (150) (100) (200)	16-6th Grade 2-9th Grade	Yes	-	Locally Developed	Maryland CARES (180 minutes)	Pamphlet	Parent preview pamphlet
CECIL	5, 6, 8 (225) (225) (270) 9, 11, 12 (360) (120) (120)	0	Yes-Grades 6,8,9	Grade 5-Science Grades 11,12-Assembly	Locally Developed	Local school system, Health Department Personnel (180 minutes)	Local school system	Pamphlet
CHARLES	5, 8, 10 (80) (80) (80)	15-Elementary 1-Middle	Yes-Grades 5,8	Grade 10-Biology	Locally Developed	Local school system Personnel (40-50 min.)	Local school system, Health Department Personnel (60 min.)	PTA, Local school program
DORCHESTER	5, 6, 7, (150) (200) (125) 8, 9, 10, 12 (125) (125) (150) (100)	0	Yes	-	Locally Developed	Local school system, Health Department Personnel	Local school system, Health Department Personnel (50 min.)	Flier
FREDERICK	6, 7, 8, 10 12 (50) (50)	0	Yes-Grades 7,8	Grade 6-Science Grade 10-Science Grade 12-English	Locally Developed	Maryland CARES Local school system, Health Department Personnel	Local school system, Health Department Personnel (90 min.)	Health Department School Personnel
GARRETT	Secondary Results Only 7, 10, 11, 12 (315) (250) (150) (150)	0	Yes	-	Locally Developed	Health Department (240 minutes)	Health Department	Pamphlet or flier
HARFORD	5, 7, 9, 10 (180) (120) (360) (135)	0	Yes	-	American Red Cross Grade 9 Locally Developed Grades 5,7,1	Local school system Personnel	Local school system Personnel	PTA program, Pamphlet/flier

LOCAL UNIT	GRADES WHERE AIDS PREVENTION INSTRUCTION OCCURS (# OF MINUTES)	#EXCUSED FROM INSTRUCTION	IS AIDS TAUGHT IN COMPREHENSIVE SCHOOL HEALTH	IF NOT, WHERE IS IT TAUGHT	CURRICULUM LOCALLY DEVELOPED OR COMMERCIAL	TEACHER TRAINING (LENGTH OF TRAINING)	STAFF AWARENESS (LENGTH OF PRESENTATIONS)	PARENT AWARENESS
HOWARD	4, 5, 6, 7, (60) (30) (45) (90) 8, 9, 10, 11, 12 (135) (135) (90) (90) (90)	Less than 30	Yes	Grade 10-Biology Grade 11-Social Studies Grade 12-Home Economics	Locally Developed	Local school Personnel, Health Department Hospital Staff (1 day)	Local school system Personnel, Hospital Staff (45-60 min.)	PTA program, Pamphlet
KENT	3, 5, 7, 9 (30) (100) (150) (250)	0	Yes-Grades 5,7,9	Grade 3-Science	Locally Developed	Local school system, Health Department Personnel (2.5 hours)	Local school system, Health Department Personnel (30 min.)	PTA program, Pamphlet/flier
MONTGOMERY	5, 6, 7, 10-12 (60) (60) (90) (90)	0	Yes	-	Locally Developed	Local school system, Health Department PLWA, HERO (2 1/2-3 hrs.)	Local school system, Health Department, HERO (60 min.)	PTA, program, Pamphlet/ flier, Seminars
PRINCE GEORGE'S	5, 6, 7, 9, 10 (120) (120) (150) (180) (180)	2-Elementary	Yes	-	Locally Developed	Local school system, Health Department (45-90 min.), Personnel	Local school system, Health Department (90), Personnel	PTA program, Pamphlet/flier
QUEEN ANNE'S	3, 5, 7, 9 (30) (45) (135) (135+)	2-Senior High	No	Grades 3,5,7,9 Science	Locally Developed	Local school system Personnel (1/2 day)	Health Department Personnel (45-60 min.)	Pamphlet/flier
ST. MARY'S	5, 8, 10 (360) (360) (360)	1-Elementary	Yes	-	Locally Developed Grades 5-8 American Red Cross- Grade 10	Local school system, Health Department Personnel Treatment Providers (120 min.)	Local school system, Health Department Personnel, Treatment Providers (60 min.)	PTA program, Pamphlet/ flier

LOCAL UNIT	GRADES WHERE AIDS PREVENTION INSTRUCTION OCCURS (# OF MINUTES)	#EXCUSED FROM INSTRUCTION	IS AIDS TAUGHT IN COMPREHENSIVE SCHOOL HEALTH	IF NOT, WHERE IS IT TAUGHT	CURRICULUM LOCALLY DEVELOPED OR COMMERCIAL	TEACHER TRAINING (LENGTH OF TRAINING)	STAFF AWARENESS (LENGTH OF PRESENTATIONS)	PARENT AWARENESS
SOMERSET	4, 6, 8, 10 (90) (180) (450) (450)	0	No	Grades 4,8-Science Grade 6-Human Reproduction Grade 10-Biology	Locally Developed	Local school system, Health Department Personnel (120 min.)	Local school system Personnel, School Nurse, Health Department Personnel (60 min.)	PTA program, Pamphlet/flier
TALBOT	6, 7, 8, 9 (90) (225) (45) (225)	Unknown	Yes-Grades 6,7,8	Grade 9-Physical Education	Locally Developed	Health Department Personnel (30 min.)	Health Department Personnel (30 min.)	PTA program Pamphlet/flier
WASHINGTON	5, 6, 7, 8, (20) (20) (30) (45) 9, 10, 11 (90) (90) (90)	8-Middle School	Yes-Grades 5-8	Grade 9-Science Grade 10,11-Pullout	Locally Developed	Local school system Personnel, Health Department, AIDS Support People (120-240 min.)	Health Department Personnel, AIDS Task Force (45 min.)	PTA programs Pamphlet Community Awareness Program
WICOMICO	4, 5, 6 7 10 (30) (120) (30) (135) (165)	12-Elementary 5-Middle School	Yes		Locally Developed	Local Health Department Personnel, Local doctors (60 min.)	Local school system Personnel, School nurse, Health Department Personnel Local doctors (60 min.)	PTA programs, Parent awareness nights
WORCESTER	6, 8, 9 or 10, 11, 12 (300) (300) (240)	12-Grade 6	Yes-Grade 9, 10	Grades 6,8 Family Life	Locally Developed	Local school system, School nurses (8 hours)	Local school system Personnel, School nurses (2 hours)	School presentations, PTA programs

Compiled September 1989

hours) was reported by Calvert County. Training for teachers and staff was generally provided by the local school system's health or personnel departments. Most districts reported that parent awareness was facilitated by PTAs, primarily through programs, pamphlets, and flyers.

IV. CONCLUSION

The two annual surveys clearly show that majority of students had a realistic perception of their susceptibility to the disease. Most of the students surveyed indicated a correct knowledge of modes of HIV transmission, modes of preventing AIDS infection, and current facts about AIDS. Their attitudes about AIDS education were very positive. During the second year of the survey, increases in correct responses were found in all of the four major areas of concern.

Their level of knowledge does not vary significantly by either sex or race/ethnicity. However, there appears to be a gradual increase of knowledge, specifically in the area of sex education, from the age of 13 to 18.

The observation that a relatively high percentage of these students are aware of some current facts about AIDS may mask the worrisome fact that about 22% of these students feel they "can tell by looking at a person if someone has AIDS." What is even more disturbing is the high risk behavior exhibited by many students. Of primary concern is the number of students who are misinformed and/or have accepted false notions about AIDS. For

example, approximately 10% of students reported having sexual intercourse for the first time at age 12 & under, this age group was also consistently the most misinformed. These students who are holding false notions are highly at risk of contracting the disease and, once infected with AIDS, are easily capable of bringing about an epidemic within only a few years.

All of Maryland's 24 school districts have an AIDS Prevention Program. However, not all school districts have included their instruction as part of a comprehensive health program. Some reported teaching it as part of science, family life, drug education, social studies, math, English, and home economics. All school districts provided training for teachers, and some type of training or methodical dissemination of information was provided for staff and parents' awareness.

Although the AIDS Prevention Programs are increasing adolescents' knowledge and changing their attitudes, more effort must be made to change their behavior. School districts should constantly update their AIDS curriculum to reflect new findings. All adolescents should receive annual instruction in AIDS prevention, and younger students should attend programs specifically designed for their age group's level of understanding.

In the nineties, school districts will be faced with greater challenges, such as staff with AIDS as well as a larger number of students with AIDS enrolled in many schools. Teachers and staff will not only require training in AIDS prevention education, but

also in providing a safe and healthy environment. They will also have the added responsibility of educating parents. There are still many adults who associate AIDS only with homosexuals and illegal drug users. At this time and maybe for many years to come, educating individuals about actions they can take to protect themselves from becoming infected is the most effective means available for controlling the epidemic.

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